

2016

Decreasing Stress in the Master's Level Nursing Student: A Stress Management Education Session

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DECREASING STRESS IN THE MASTER'S LEVEL NURSING STUDENT:
A STRESS MANAGEMENT EDUCATION SESSION

A Major Paper Presented

by

Krystal Hilton, RN, BSN

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DECREASING STRESS IN THE MASTER'S LEVEL NURSING STUDENT:
A STRESS MANAGEMENT EDUCATION SESSION

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Krystal Hilton, RN, BSN

A Major Paper Submitted in Partial Fulfillment

of the Requirements for the Degree of

Master of Science in Nursing

in

The School of Nursing

Rhode Island College

2016

Abstract

Stress in the nursing professional and in nursing students is well documented in the literature. However, the extent to which it occurs and the means of coping with stress vary. Family responsibilities, finances, and academia have been identified as main stressors for graduate school nurses. It is important to establish coping mechanisms that address the two hemispheres of stress, due to the physiological and psychological effects on the body. The purpose of this study was to develop a stress management education session for Master of Science in Nursing (MSN) students enrolled in their initial clinical rotation at Rhode Island College (RIC). The education session consisted of a review of stress and coping methods, followed by the instruction of two stress management techniques: paced-breathing meditation (PBM) and relaxation/diaphragmatic breathing. A pre and post survey researcher developed method was utilized to evaluate the effects of the intervention on perceived stress levels. A convenience sample of six students participated in the intervention, course evaluation and pre-survey, and five students responded to the post-survey. The intervention did result in an overall mean reduction of PSS-10 scores of 2.2 points, indicating a decrease in perceived stress.

Keywords: stress management, coping, perceived stress, meditation

Acknowledgements

I would like to thank my first reader, Dr. Lescault for her patience and support throughout this process. I would also like to acknowledge my second reader, Dr. Padula for her expertise and guidance, and my third reader, Stanley Goodman, NP, for his assistance.

To my husband Troy, for whom I would not have made it through this program without, thank you. I would also like to thank my peers, family, and friends for offering me their unconditional love and support.

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DECREASING STRESS IN THE MASTER'S LEVEL NURSING STUDENT:
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Background/Statement of the Problem

Stress occurs when an individual is faced with a situation that brings about a positive or negative physical or emotional reaction. Stress is defined as the psychological, physiological, and behavioral response experienced by an individual when there is a perceived imbalance between life demands and their ability to meet those demands (Palmer, 1989). How an individual attains the balance between various life demands is called coping. The ability to improve coping skills to decrease the stress response is essential to maintain an individual's physical and emotional well-being.

While stress is inevitable for any student enrolled in an MSN program, excessive stress is counterproductive and can ultimately lead to poor student outcomes. Increased levels of stress in bachelors and masters level nursing students have a negative effect on attrition and retention rates, and overall health (Deary, Watson & Hogston, 2003). Research has demonstrated increased levels of stress and anxiety in the Bachelors in Science of Nursing (BSN) and MSN students (Lust, Ehlinger, & Golden, 2010). Academic pressures, clinical practicum demands, family responsibilities, end of life patient experiences, and financial concerns have all been identified as sources of stress (Lust et al.). These increased stressors have led to healthcare employers and academia implementing stress management intervention programs for both practicing nurses and nursing students (Jones & Johnston, 2006).

The nursing profession involves high levels of emotional and physical stressors. Occupational health and safety researchers establish nurses are continuously exposed to psychosocial stressors in the workplace, including working off-shift hours, long work

hours, interpersonal conflicts, insufficient staffing and ancillary support resources, poor reward systems, peer bullying, and physical abuse from patients (Wu et al, 2007). These stressors have been linked to increased nurse burnout and nurses permanent abandonment of the healthcare field all together (Peterson et al, 2008). Nursing burnout was first defined in 1974 by Freudenberger to describe workers' reaction to chronic stress in certain occupations that involve frequent human interactions.

Many nurses enrolled in an MSN program are also working in a hospital setting at least part-time and are exposed to in-patient psychosocial stressors. When pressures of family demands, lifestyle stressors and financial burdens are added to a stressful career, practicing nurses run the risk of becoming overburdened when pursuing another degree. A negative correlation between stress and coping in BSN and medical students has been documented in the literature (Chernomas & Shapiro, 2013). However, there is limited study of stress and coping in the MSN student.

The purpose of this study was to develop a stress management education session for MSN students enrolled in their initial graduate level clinical rotation during the spring semester of 2016 at Rhode Island College. The goal of the study was to subsequently reduce the perceived stress level of participants.

Next, the review of the literature will be presented.

Literature Review

A comprehensive literature review was conducted using PubMed and Cumulative Index to Nursing and Allied Health Literature (CINAHL) utilizing the keys words: stress, stress management, perceived stress, coping, meditation, and graduate nurse. The review was limited to full text articles available in English and published within the last twelve years. After exploration of the literature, the following areas of study were identified: stress and coping, the presence and impact of stress on nursing students, managing stress in the college student and the effects of stress management programs.

Stress and Coping

The effects of stress impact each body system. Situations which cause stress elicit negative states and are linked to impaired regulation of the immunological and inflammatory responses (Cohen, Janicki-Deverts, & Miller, 2007). Severe psychological stress affects approximately thirty-five percent of North Americans, and chronic stress increases the risk for diabetes, acute myocardial infarction, stroke and cardiovascular disease (Lucini et al, 2005). Numerous studies have examined the correlation between stress and negative health behaviors, such as increased alcohol consumption, worsening depression, and increased anxiety symptoms (Lust, Ehlinger, & Golden, 2010; Kanji, White, & Ernst, 2006).

Coping is the process of contending with life difficulties in an effort to overcome or work through stressful situation (Gibbons, 2010). Encouraging the use of positive coping strategies involves understanding the etiologic factors behind an individual's chosen coping strategies, supporting their strengths and effective coping methods, and offering alternative strategies to ineffective coping behaviors (Jones & Johnston, 2006). The manner in which individuals cope with stress does not always yield positive

outcomes. In Lazarus and Folkman's (1984) model of stress, two appraisals occur when a person is met with a stressful situation. The primary appraisal refers to the initial perception of the stressor and whether it is judged to be positive, negative, or benign. The secondary appraisal refers to the coping mechanisms used to overcome the stressor (Lazarus & Folkman, 1984). An individual's coping behavior can be either positive or negative. Some coping behaviors are maladaptive and can lead to negative outcomes. Yearwood and Riley (2010) indicated the most successful methods of coping for BSN and MSN nursing students are peer mentoring, support groups, relaxation techniques, meditation, and professor support.

Measurements of Stress

There are three scales primarily used to measure stress and anxiety in BSN and MSN students. They are: 1) the Depression Anxiety Stress Scales (DASS-21), 2) Perceived Stress Scale (PSS), and 3) State-Trait Anxiety Inventory (STAI). The DASS-21 was established to assess the severity of the core symptoms of depression, anxiety and stress (Lovibond & Lovibond, 1995). The survey consists of a 21-item Likert scale. Each item is scored from zero (did not apply to me at all over the last week) to three (applied to me very much or most of the time over the past week), and the maximum score can be 42 points in each category (Lovibond & Lovibond). Individuals are placed in categories ranging from normal to severe in relation to depression, anxiety and stress.

The PSS-10 (Cohen et al., 1983) is a psychological instrument widely used to measure the perception of life stressors and describes how unpredictable, uncontrollable, or overloaded participants feel at the time of survey response (Cohen et al.). The survey consists of ten items that measure the respondents' stress perceptions from the previous

month. Each item is rated on a five-point Likert scale ranging from never (0) to almost always (4). Survey items representing positive coping and perceived stress are reverse-scored. Higher scores indicate increased perceived stress (Cohen et al.). For the purpose of this investigation, the PSS-10 tool will be utilized to determine participants' perceived stress before and after one stress management intervention.

The STAI is a self-reported forty-item Likert scale instrument designed to assess levels of state anxiety and trait anxiety (Spielberger et al., 1983). State anxiety is a temporary emotional response resulting from situational stress and trait anxiety refers to a predisposition to experience anxiety resulting from a known stressor (Spielberger et al.). The STAI instrument includes twenty items referencing state anxiety and twenty questions referencing trait anxiety. Higher scores are equivalent to higher experienced anxiety and therefore stress is also related to higher experienced anxiety.

Stress in Nursing Students

Stress can motivate learning, however excessive or prolonged stress may interfere with the learning process and inhibit academic progression (Wichianson et al., 2009). Academic and personal stress in students who possess poor coping mechanisms can have negative effects on all aspects of personal and academic life. Stress is attributed to poor attrition and retention rates in nursing programs in the United States and other countries (Yearwood & Riley, 2010). A study was conducted in the United Kingdom involving BSN students which examined the correlation between stress, attrition, and coping strategies (Deary, Watson, & Hogston, 2003). The BSN students were surveyed three times throughout their schooling, at twelve months, twenty-four months, and at the completion of their degree. The researchers concluded that negative coping methods

increased student stress levels and had long-term negative effects on grades and retention rates (Deary et al.).

Chernomas & Shapiro (2013) investigated the prevalence of stress, depression, and anxiety in undergraduate BSN students at a Canadian university. The DASS-21 survey was used to explore the association between demographic data and quality of life indicators. The researchers hypothesized the undergraduate nursing student population would exhibit signs of stress and anxiety due to outside stressors such as work, family stress, financial strain, and poor support systems. Study results revealed 10% of the students ($n=43$) scored in the severe and extremely severe categories for depression; 16% ($n=70$) scored in the severe to extremely severe categories for anxiety; and 10% ($n=46$) scored in the severe to extremely severe categories for stress (Chernomas & Shapiro).

The researchers also found correlations between high-risk lifestyles and ineffective coping methods in those students who scored in the severe and extremely severe categories for depression, anxiety, and stress (Chernomas & Shapiro, 2013). The high-risk lifestyles were identified as: full time work, family stress, poor support systems, and drug or alcohol use. Ineffective coping methods used by the severe and extremely severe groups were identified as: avoidance, substance abuse, and denial. Higher stress and anxiety scores existed among students with ineffective coping methods, increased anxiety before clinical practice, and higher stress levels at baseline (Chernomas & Shapiro). However, the survey did not elicit data related to the participants' current life stressors.

Evans and Kelly (2004) examined the correlation between stress and coping methods used in student nurses from Ghana. Two-hundred and seventy-three BSN

students participated in the study. A validated questionnaire collected data on five coping methods: cognitive, spiritual, behavioral, social, and avoidance. The questionnaire evaluated the differences of coping methods in relation to academic course type and the demographic variables of gender and marital status. The researchers concluded the highest coping method established by study participants was cognitive coping. Cognitive coping uses thoughts rather than emotions to cope with stress (Evans & Kelly). Through this form of coping, a stressful situation is met with a rational thought process and solutions are established. Consequently, the study findings demonstrated no significant difference in the levels of various coping methods among gender or marital status.

Stress and anxiety experienced by BSN students have been linked to increased stress perception in clinical practice. Kleiveland, Natvig, & Jepsen (2015) further corroborated Chernomas & Shapiro's (2013) research in clinical practice causing increased stress among BSN students. Stress and quality of life (QOL) in BSN students in Norway were measured and correlated in the study. Thirty-three percent of students surveyed experienced moderate to high levels of stress prior to clinical practice and stress was negatively associated with QOL in the regression analysis.

The literature clearly identified increased stress levels among BSN students in their first clinical experience. However, there is limited research investigating stress and coping among MSN students embarking on their first advanced clinical experience. The novice BSN student is not unlike the inexperienced MSN student entering the advanced clinical setting for their first clinical experiences. Therefore, MSN students entering their first advanced clinical encounter may experience similar levels of stress as BSN students.

Stress Management and Coping Techniques

Identifying effective coping methods is imperative to reducing stress in BSN and MSN students. Coping is the process of managing the interaction with the environment and the perceived stress and emotions that coincide with that experience (Lazarus & Folkman, 1984). The ability of an individual to handle stress is a stress reduction strategy through increasing effective coping mechanisms (Weiss, Nordlie, & Seigel, 2005). Stress is multifactorial and affects each individual differently, thus necessitating a variety of coping mechanisms for effective stress reduction among many people (Weiss et al.). Providing individuals with tools needed to overcome or cope with stress is as important as identifying the presence of stress.

Research studies have addressed effective interventions to decrease BSN nursing students' stress. These studies identified the most effective methods of stress management in nursing students as: 1) relaxation techniques, 2) meditation, and 3) using positive coping methods (Gibbons, 2010; Jones & Johnston, 2006; Peterson et al, 2008; Yearwood & Riley, 2010).

Relaxation Techniques

Relaxation techniques such as diaphragmatic breathing and visualization are self-taught and can be practiced anywhere. Diaphragmatic breathing consists of controlled deep breathing that causes the individual to enter a state of relaxation. The ease of accessibility of these interventions may be related to their effectiveness in stress reduction (Inanlu et al, 2012). Relaxation techniques have been shown to decrease stress levels after only one intervention (Cohen, Jenicki-Deverists, & Miller, 2007). Visualization is another relaxation technique that incorporates goal affirmation while

relaxing the mind and seeing the way through a stressful situation using positive thoughts (Kanji, White, & Ernst, 2006).

A randomized controlled trial conducted in the United Kingdom explored the effects of autogenic training and laughter therapy on stress and anxiety reduction in BSN students (Kanji et al., 2006). Autogenic training incorporates therapeutic breathing, visualization, and meditation. The student participants in treatment group A were taught autogenic training exercises over an eight-week period. Treatment group B attended eight weekly sessions of laughter therapy, which included thirty-minute sessions of video and stories used to illicit a humor response. Group C was the control group and received no intervention over the eight-week period.

Participants' blood pressures were measured before and after interventions to explore any physiological effects. The State-Trait Anxiety Inventory (STAI) was completed at weeks one, five, eight, and eleven. The survey was repeated at 14-months post intervention. A second validated tool, the Maclash Burnout Inventory was also utilized. This survey was a 22-item tool that measured emotional exhaustion and was administered at the same study time intervals as the STAI. Results yielded 98% of participants ($n = 74$) labeled college work as stressful and 18% ($n = 14$) had considered dropping out of the nursing program due to increased stress (Kanji et al., 2006). Common themes of stress were identified as clinical work, family demands, and interpersonal relationships. There was a statistically significant reduction in anxiety evidenced by a fourteen point decrease in STAI scores for group A after completing the autogenic training ($p < 0.001$). This result indicated an effectiveness of autogenic training on stress reduction. Participants identified causes of stress as clinical work 56% ($n = 42$), family responsibilities and demands 50%

($n=38$), and interpersonal relationships 53% ($n=40$) (Kanji et al.). There were no differences in the Maclash Burnout Inventory scores among the three study groups. However, there was a significant decrease in both systolic (mean = 11mm/Hg) and diastolic blood pressures (mean = 7mm/Hg) for group A ($p < 0.005$) immediately following the autogenic training intervention. The study correlated the short-term benefits of decreased anxiety and blood pressure reduction with the incorporation of autogenic techniques.

Meditation

Meditation is a cognitive exercise used to enhance the quiet mind and recognize and control intrusive thoughts (Lazar, Kerr, Wasserman, Greve, & Threadway, 2005). Meditation is a widely used method for stress prevention and reduction (Beddoe & Murphy, 2004). The National Center for Complementary and Alternative Medicine (NCCAM, 2012) defines meditation as a mind-body process that has been studied as an additional intervention to decrease stress. Psychological stress may be reduced by an individual's mindfulness, a state of consciousness that focuses on the awareness of the moment-to-moment experience of one's environment, thoughts, feelings, and actions (Morledge et al, 2013). Individuals who focus their attention and become mindful of their thoughts and feelings can create a state of calmness, relaxation, and balance (NCCAM, 2012).

Many individuals who practice meditation have improved health, increased QOL, and decreased perceived stress levels (Beddoe & Murphy, 2004; Lazar et al., 2005; Oman & Beddoe, 2005). Traditional meditation programs can be lengthy and expensive and research has been conducted to examine if similar effects can be obtained in a shorter

duration of time with decreased costs. Lane, Seskevich, and Pieper (2007) developed a brief meditation training program and investigated the effects on perceived stress, anxiety and negative emotion. The study consisted of students from Duke University ($n=133$) and used a pre and post-test design including a pre-intervention assessment of perceived stress and negative mood. Perceived stress was measured using the PSS-10 survey, anxiety was operationalized using the STAI tool and negative mood was assessed using the Profile of Mood States (POMS). The POMS is a validated survey used to measure mood states and consists of sixty-five adjectives describing moods that are rated on a five-point Likert scale (McNair, Lorr, & Droppleman, 1971).

Participants in the study attended four one-hour small group meetings to learn a mantra-based meditation technique. The first sessions began with participants selecting a word or sound as their mantra and focus of meditation. The meditation segment was followed by therapeutic breathing and silent mantra repetition for fifteen-minutes. Subsequent sessions reinforced the skills and provided development and support of each participants' practice regimes. The PSS-10, POMS, and STAI were assessed pre-intervention and monthly after each session for six months. Post-treatment reductions in negative mood, stress, and anxiety were 30% of baseline levels for POMS total mood disturbance, 23% for the PSS-10, and 14% for STAI ($p<0.0001$). The researchers concluded brief instruction in simple meditation techniques could improve mood and perceived stress in healthy adults (Lane et al., 2007).

A similar study examining the effects of a single-session meditation program on stress and QOL was conducted at the Mayo Clinic. Prasad, Wahner-Roedler, Cha, and Sood (2011) hypothesized teaching meditation in a single training session to healthcare

workers would reduce PSS-10 survey scores and increase QOL. Seventeen health clinic employees were recruited to participate in the study. Participants attended a two-hour group training session in meditation instructed by a physician who had previous training experience with meditation. The session included basic meditation information and participants were taught paced-breathing meditation (PBM). PBM involves a rhythmic sequence of musical chords that participants match with slow, deep breathing for a total of fifteen minutes. Participants were instructed to practice at home daily for four-weeks.

PSS-10 and QOL scores were measured pre-intervention and at four weeks. After four weeks of practice, the mean PSS-10 scores decreased by eleven points ($p < 0.0001$) and the mean QOL scores increased by eight points ($p = 0.0005$) (Prasad et al., 2011). At the four-week mark, researchers administered a Meditation Experience Feedback Form, a six-item questionnaire that evaluated the program. Participants reported the program was easy to practice and of adequate length, and felt it was an overall positive experience. The researchers concluded participation in a single PBM training session showed clinically meaningful and statistically significant efficacy for enhancing QOL and reducing perceived stress (Prasad et al.).

Research aimed at studying decreasing stress frequently combine more than one stress management strategy. Morledge et al. (2013) conducted an online stress management program called Stress Free Now that incorporated meditation and therapeutic breathing. The purpose of the study was to test the program's effectiveness in reducing stress and improving overall emotional and psychological well-being by examining the effects of an eight-week online stress management program among three groups of participants. The researchers hypothesized improving an individual's reaction

to stress through mindfulness could decrease perceived stress, increase vitality, improve psychological well-being, and improve QOL (Morledge et al.).

The first group was the internet management only group. The second group completed the eight-week online stress management program and received daily motivational emails with stress management technique reminders. The third group was the control group and received no intervention. The researchers measured participants' perceived stress, mindfulness, psychological well-being and QOL at baseline, eight weeks and twelve weeks using three standardized tools. The PSS-10 was used to evaluate perceived stress. Mindfulness was measured using the Mindfulness Attention Awareness Scale (MAAS), a 15-question Likert scale survey describing the participants' awareness and mindfulness on a daily basis. Psychological well-being was measured using the Psychological Well-Being Scale, a fifty-four item survey that consisted of questions related to self-acceptance, personal growth, positive relations with others, autonomy, and environmental mastery (Winefield et al., 2012).

The two intervention groups participated in the online program and were introduced to a new stress management technique each week that focused on mindfulness meditation, visualization, and therapeutic breathing. Both intervention groups demonstrated a statistically significant improvement in their perceived stress, mindfulness, and psychological well-being when compared to the control group ($p < 0.01$) (Morledge et al., 2013). The researchers concluded an online stress management program incorporating mindfulness, relaxation, and meditation techniques was effective in reducing the perceived stress of participants (Morledge et al.). Although this study was

not conducted within an academic population, the results can be generalized to BSN and MSN student populations.

The theoretical framework that guided the study methods will be presented next.

Theoretical Framework

The theory of Stress, Appraisal, and Coping provided the theoretical guidance for this study (Lazarus & Folkman, 1984). The theory was postulated in 1966 by Richard Lazarus and has been expanded to include the concepts of stress, coping, and adaptation. The theory addresses a person's response to stress in addition to different adaptive coping processes. Higher stress and anxiety exist among students with ineffective coping methods (Chernomas & Shapiro, 2013). Therefore, participants in this study will be provided with skills to improve coping methods, decrease perceived stress, and eliminate ineffective coping.

According to Lazarus and Folkman (1984), stress is a two-way process involving the production of stressors by the environment and the response of the individual subjected to those stressors. Stress occurs when our life demands outweigh our resources to meet them. When a person interacts with a negative environment and does not have the resources to apply a solution, stress will inevitably occur (Lazarus & Folkman). Cognitive appraisal is the first step in the coping process and occurs when an individual understands why the interaction between the environment and the individual causes stress in the first place, and to what degree (Lazarus & Folkman).

Cognitive appraisal is different for each individual. Previous experiences, as well as current circumstances, will affect the way a person reacts and evaluates a situation in the environment (Lazarus & Folkman, 1984). The Stress, Appraisal, and Coping theory suggests a stress reaction occurs after meaning is attached to an event, thereby inducing an emotional reaction (Lazarus & Folkman). Cognitive appraisal not only affects how an individual will cope with a specific event, but how one will react to similar situations in the future (Lazarus & Folkman). Appraisals are divided into three different categories: 1)

irrelevant, 2) benign positive, and 3) stressful. When an individual experiences an irrelevant event, the event causes no emotional significance and changes nothing (Lazarus and Folkman). Benign positive appraisals often produce a pleasure reaction and occur when an environmental interaction results in a potential positive outcome (Lazarus & Folkman). When an individual is faced with a stressful appraisal, a negative outcome is perceived and feelings of fear, threat, and loss may occur (Lazarus & Folkman,).

In relation to MSN students, studies show a significant number of stressful appraisals are experienced throughout the academic process, particularly surrounding the clinical experience (Lust, Ehlinger, & Golden, 2010). To neutralize stressful appraisals in MSN students, adaptive coping methods must be established early. Individuals with ineffective coping methods will characteristically experience increased perceived stress (Morledge et al, 2013). Lazarus and Folkman's (1984) theory describes two coping methods: 1) problem-focused and 2) emotional-focused. Problem-focused coping consists of problem definition, generating solutions, and evaluating results. Emotion-focused coping occurs when one feels helpless to deal with the stressful interaction. Both coping methods are used to handle the demands placed on the person by the environment

The purpose of this study was to explore if participation in a stress management education session would decrease stress levels in MSN students. These MSN students began their clinical rotations in the spring 2016 semester at Rhode Island College (RIC). Lazarus and Folkman's (1984) stress appraisal and coping theory is relevant to this population because the stress management session will incorporate coping mechanisms and explore the students' ineffective coping styles.

Next, the methods and procedures will be discussed.

Method

Purpose

The purpose of this study was to explore if participation in a stress management education session would decrease stress levels in MSN students.

Design

This project employed a pre-intervention, intervention, post-intervention design.

Sample and Site

All RIC MSN students enrolled in the NURS 510 Older Adult Health & Illness I course during the spring 2016 semester were eligible to participate ($n=16$). Students enrolled in this course were in the Adult/Gerontology Acute Nurse Practitioner (NP) or Adult/Gerontology Acute Clinical Nurse Specialist (CNS) study options. Exclusion criteria included MSN students not enrolled in NURS 510 in the spring 2016 semester. A convenience sample of six students participated in the education session, course evaluation and pre-survey, and five students responded to the post-survey.

Procedures

Permission to conduct the study was obtained from Dr. Cynthia Padula, Director of the MSN program at RIC and appropriate faculty. This proposal was submitted to the RIC Institutional Review Board (IRB) for review and was classified as exempt.

After obtaining IRB exemption, the student investigator (SI) met with the potential study participants ($n=16$) after a scheduled lecture in March of 2016. The SI informed the participants of the educational session, explained the study purpose and procedures, and encouraged voluntary participation. An IRB approved informational

letter (Appendix A) was distributed to willing participants and those who wished to participate stayed for the educational session.

The stress management education session duration lasted approximately one hour. During the first ten minutes of the session, participants were asked to complete the PSS-10 survey (Appendix B). Students recorded their mother's maiden name on their survey for comparison with pre with post survey responses. As an incentive, participants were eligible to be entered into a \$25 gift card drawing. One Starbucks and one Barnes and Noble gift card would be randomly awarded in a drawing after the follow up session. The SI met with the study participants three weeks later to complete the PSS-10 post survey and program evaluation (Appendix F). After post survey and evaluation completion, the drawing took place and two \$25 gift cards were awarded.

Program Development

To adequately train the study participants in effective stress management techniques, the SI participated in an online course developed by the Cleveland Clinic titled "Stress Free Now". The program consisted of a six-week stress management online course designed to teach stress reduction through a variety of relaxation and meditation techniques. The program educational content and objectives for the educational session that were used in this study are illustrated in Table 1 on the next page.

Table 1

Educational Program Content and Objectives

Content	Objective
Introduction to Stress	Identify causes of stress and effect stress has on the body
Coping Mechanisms	Differentiate between ineffective and effective coping
Stress Management	Identify ways to identify and manage stress in oneself
Relaxation Techniques	Demonstrate diaphragmatic breathing and visualization
Meditation Techniques	Identify benefits to meditation and demonstrate PBM

The stress management education session began with a discussion of stress and coping and participants were asked to identify sources of stress in the MSN program. Next, the physiological and psychological effects of stress were reviewed. Handouts describing each stress management technique were provided for reference (Appendices D & E). Participants were asked to provide return demonstration of the techniques. The SI reviewed common causes of stress in MSN students and discussed effective and ineffective coping strategies with the group. A detailed session outline is provided in Appendix C. A list of RIC campus and community stress support resources was distributed at the conclusion of the session (Appendix G).

The stress management techniques demonstrated in the education session included PBM and relaxation/diaphragmatic breathing. PBM was selected as the primary meditation technique offered due to the statistically significant results in the Prasad et al.

(2011) study. The participants returned demonstration of the learned techniques without difficulty. Participants were instructed to practice the learned techniques for five-minutes daily until the next meeting in three weeks.

Measurement

The PSS-10 survey was used in this study to measure the perceived stress of participants pre and post intervention. Each item is rated on a five-point Likert scale ranging from never (0), to almost always (4). Items related to effective coping are reverse scored. All responses are summed and higher scores indicate increased perceived stress (Cohen et al, 1983). Non-profit research participation at RIC permitted reprinting and data collection using the PSS-10 survey from the American Sociological Association and researchers Cohen, S., Kamarack, T., and Mermelstein (1983).

The PSS-10 survey is self-reported and contains ten-items that measures the degree of perceived stress (Cohen et al., 1983). The validity of PSS-10 scores in college student samples has been demonstrated. Cronbach alpha reliability in similar populations were reported at 0.84 and 0.85 respectively (Cohen et al.).

Ethical Concerns

RIC IRB exempt determination was obtained prior to recruiting study participants. Enrollment was voluntary and no academic credit was provided. To further ensure confidentiality, group meetings took place in a private room on the RIC campus and no recording devices were used. Topics of stress discussed within the group setting may have elicited negative emotions. Participants were informed that if they felt uncomfortable for any reason, they could withdraw from the study and were encouraged to seek assistance at the RIC Counselling Center. Lists of stress management community

resources located in the state of Rhode Island and the RIC campus was also distributed during the initial study meeting (Appendix G).

Data Analysis

Upon study completion, the PSS-10 pre and post study scores were analyzed using an excel spreadsheet and the Statistical Package for Social Sciences (SPSS). Results were confirmed by two researchers to ensure validity. Data are stored confidentially in a secured cabinet in the Graduate Nursing office on the RIC campus.

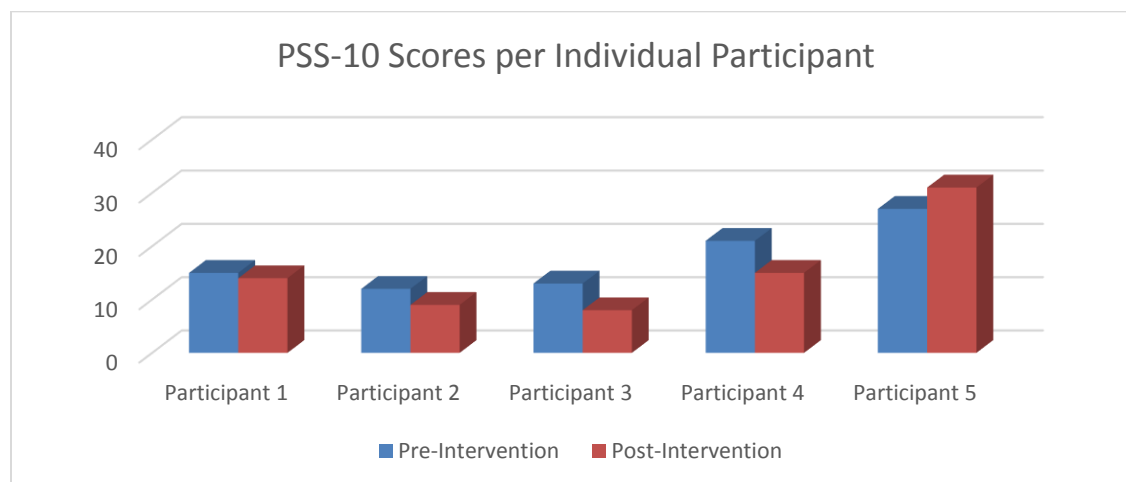
Next, the results of the study will be presented.

Results

A total of five students out of the potential sixteen (31%) participated in the stress management education session, course evaluation and pre and post survey. Scores for the PSS-10 range from 0 to 40 points. Higher scores indicate increased perceived stress and lower scores demonstrate decreased levels of perceived stress. Response scores can range from 0 to 40 points. Decreased PSS-10 scores were evident in 80% ($n=4$) of the participants and only 20% ($n=1$) exhibited an increase in perceived stress scores. The pre and post intervention PSS-10 scores for each participant are compared in Table 2.1.

Table 2.1

Participants' Pre-and Post-intervention PSS-10 Scores



The pre-intervention PSS-10 scores ranged from 12 to 27 points, with a mean score of 17.6 points. The post-intervention PSS-10 scores ranged from 8 to 31 points, with a mean score of 15.4 points. Analysis of the pre and post scores demonstrated an improvement in perceived stress. This is evidenced by a mean decrease in PSS-10 scores of 2.2 points. Of the 80% ($n=4$) of participants who exhibited improved perceived stress scores post intervention, there was a mean improvement of PSS-10 scores of 3.75 points.

Pre and post intervention results by individual question are reviewed in Tables 2.2 and

2.3.

Table 2.2

PSS-10 Pre-Intervention Survey Results by Question

Perceived Stress Scale Questions	Mean Score	Never (0)	Almost Never (1)	Sometimes (2)	Fairly often (3)	Very often (4)
In the last month, how often have you been upset because of something that happened unexpectedly?	1.6	0% (n=0)	60% (n=3)	20% (n=1)	20% (n=1)	0% (n=0)
In the last month, how often have you felt that you were unable to control the important things in your life?	1.8	0% (n=0)	40% (n=2)	40% (n=2)	20% (n=1)	0% (n=0)
In the last month, how often have you felt nervous and “stressed”?	2.2	0% (n=0)	40% (n=2)	20% (n=1)	20% (n=1)	20% (n=1)
In the last month, how often have you felt confident about your ability to handle your personal problems? (positive question)	1.8	0% (n=0)	40% (n=2)	0% (n=0)	60% (n=3)	0% (n=0)
In the last month, how often have you felt that things were going your way? (positive question)	2	0% (n=0)	40% (n=2)	20% (n=1)	40% (n=2)	0% (n=0)
In the last month, how often have you found that you could not cope with all of the things that you had to do?	1.8	0% (n=0)	40% (n=2)	40% (n=2)	20% (n=1)	0% (n=0)
In the last month, how often have you been able to control irritations in your life? (positive question)	1.6	20% (n=1)	40% (n=2)	0% (n=0)	40% (n=2)	0% (n=0)
In the last month, how often did you feel like you were on top of things? (positive question)	1.6	0% (n=0)	20% (n=1)	20% (n=1)	20% (n=3)	0% (n=0)
In the last month, how often have you been angered because of things that were outside of your control?	1.4	0% (n=0)	60% (n=3)	40% (n=2)	0% (n=0)	0% (n=0)
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	1.8	0% (n=0)	40% (n=2)	40% (n=2)	20% (n=1)	0% (n=0)

Table 2.3

PSS-10 Post-Intervention Survey Results by Question

Perceived Stress Scale Questions	Mean Score	Never (0)	Almost Never (1)	Sometimes (2)	Fairly often (3)	Very often (4)
In the last month, how often have you been upset because of something that happened unexpectedly?	2	0% (n=0)	40% (n=2)	40% (n=2)	0% (n=0)	20% (n=1)
In the last month, how often have you felt that you were unable to control the important thing in your life?	1.8	0% (n=0)	40% (n=2)	40% (n=2)	20% (n=1)	0% (n=0)
In the last month, how often have you felt nervous and “stressed”?	2.4	0% (n=0)	20% (n=1)	40% (n=2)	20% (n=1)	20% (n=1)
In the last month, how often have you felt confident about your ability to handle your personal problems? (positive question)	0.6	0% (n=0)	0% (n=0)	20% (n=1)	20% (n=1)	60% (n=3)
In the last month, how often have you felt that things were going your way? (positive question)	1.8	20% (n=1)	0% (n=0)	40% (n=2)	20% (n=1)	20% (n=1)
In the last month, how often have you found that you could not cope with all of the things that you had to do?	1.2	20% (n=1)	40% (n=2)	40% (n=2)	0% (n=0)	0% (n=0)
In the last month, how often have you been able to control irritations in your life? (positive question)	1.2	20% (n=0)	0% (n=0)	20% (n=1)	20% (n=1)	40% (n=2)
In the last month, how often did you feel like you were on top of things? (positive question)	1.6	20% (n=1)	0% (n=0)	20% (n=1)	40% (n=2)	20% (n=1)
In the last month, how often have you been angered because of things that were outside of your control?	1.4	0% (n=0)	60% (n=3)	40% (n=2)	0% (n=0)	0% (n=0)
How often have you felt difficulties were piling up so high that you could not overcome them?	1.4	20% (n=1)	60% (n=3)	0% (n=0)	0% (n=0)	20% (n=1)

When individual PSS-10 questions were analyzed and compared, There was improvement in the mean scores of 70% ($n=7$) of the survey questions on the PSS-10. Participants demonstrated the greatest improvement with question four: “In the last month, how often have you felt confident about your ability to handle your personal problems?”. There was a calculated mean improvement score of 1.2 points.

Program evaluations were completed by participants at the final meeting in April of 2016 (Appendix F). The evaluation consisted of four questions related to the content and delivery of the stress management techniques during the educational session.

Responses to these questions are detailed in Table 3.1.

Table 3.1

Program Evaluation Responses

Questions	yes	No
Was the group mentor prepared for group meetings?	100% ($n=5$)	0% ($n=0$)
Would you recommend this program to other students in the MSN program?	100% ($n=5$)	0% ($n=0$)
Would you recommend this program to other students in the MSN program?	80%($n=4$)	20% ($n=1$)
Do you think that your overall stress level is less than when you began this program?	80%($n=4$)	20% ($n=1$)

Participants were instructed to circle “yes” or “no” to each question. All participants ($n=5$) answered affirmatively to the following questions: “Was the group mentor prepared for group meetings?” and “Would you recommend this program to other

students in the MSN program?” For the questions: “Did you find this program helpful in decreasing your stress?” and “Do you think that your overall stress level is less than when you began this program?”, 80% ($n=4$) answered yes and 20% ($n=1$) answered no.

A handwritten annotation was included on the evaluation as follows: “I never used the tool, I wish I had”. When the evaluations were correlated with the pre and post intervention surveys, the one participant with increased perceived stress after the intervention had not practiced PBM at home as instructed. This omission may have been a contributing factor to their increase in perceived stress.

In the next section, the summary and conclusion will be presented.

Summary and Conclusions

Academia, family responsibilities, and finances have been identified as main stressors in MSN students. Research identified the most effective methods of stress management in this population as: 1) relaxation techniques, 2) meditation, and 3) positive coping methods (Gibbons, 2010; Jones and Johnston, 2006; Peterson et al, 2008; Yearwood & Riley, 2010). The purpose of this study was to develop a stress management education session for MSN students enrolled in their initial graduate level clinical rotations during the spring semester of 2016 at RIC. The goal was to subsequently reduce the perceived stress levels of participants. The education session consisted of a review of stress and coping methods followed by the instruction of two stress management techniques: PBM and relaxation/diaphragmatic breathing. The education session utilized a pre and post survey method to evaluate the effects of the interventions on the perceived stress levels of the participants using a validated survey.

There were limitations to this study. First, the small sample size of six students participating in the intervention and pre survey, followed by five students responding to the post-survey, did not represent the entire MSN population enrolled in the graduate program. A larger sample of students may have shown increased positive outcomes. The sample size could have been negatively impacted by the students' inability to provide additional time to participate in a stress management class. For future study, it would be helpful to incorporate stress management sessions during class time which would encourage more students to participation.

The second limitation was the lack of demographic data collected. To maintain anonymity for participants, the SI limited personal data collected. In future studies, it

would be beneficial to collect data regarding gender, marital/family status, and educational history to evaluate if correlations exist. Another limitation was the lack of post intervention follow-up after study completion. This information would be helpful to demonstrate whether students continued to use the interventions. Finally, the last limitation was the duration and number of stress management sessions offered. Since there was a reduction in PSS-10 scores after only one stress management session, we can assume a greater reduction in scores would have occurred with more frequent sessions and follow up.

The results of this pilot educational program are consistent with themes found in the literature. Many individuals who practice meditation have improved health, increased QOL and decreased perceived stress levels (Beddoe & Murphy, 2004; Lazar et al., 2005; Oman & Beddoe, 2005). The SI hypothesized one session of stress management education could reduce perceived stress, and this was evident by decreased PSS-10 scores. Despite the small sample size, this intervention resulted in a mean reduction of PSS-10 scores of 2.2 points overall. The reduction of PSS-10 scores indicated a decrease in the perceived stress of the participants after completing the session. The SI would conclude that a larger scale stress management program incorporating PBM and diaphragmatic breathing would be beneficial to MSN students and ultimately result in decreased perceived stress levels.

Next, the implications and recommendations for advanced nursing practice will be discussed.

Recommendations and Implications for Advanced Nursing Practice

Findings from this investigation highlight many MSN students' experiences of feeling anxious or stressed "fairly often" or "very often" over the course of one month of study. Academic and personal stress in students who possess poor coping skills can have negative implications on all aspects of life. A negative correlation between stress and coping in the BSN student and medical students has been clearly documented in the literature (Chernomas & Shapiro, 2013). However, there remains limited study of stress and coping in the MSN student population. This study has contributed to the evaluation of stress management in the MSN student and could be expanded upon for future studies in this population.

This study shows a need for stress management programs to be incorporated into the curriculum of all MSN programs. Single session meditation instructional programs can be offered during mandatory class time to promote active participation and reduce perceived stress. Further investigation of a pilot program that includes a larger sample size and more detailed demographics would help determine the effectiveness of a curriculum-based stress management program. This study demonstrated the positive impact one stress management class had on MSN students. The benefits of incorporating stress management techniques in the curriculum for MSN students would potentially include decreased stress, increased retention rates, and improved attrition.

Increased stress levels and poor coping skills extend far beyond the students enrolled in an MSN program. There is an abundance of research related to stress in the nursing field. The nursing profession is fraught with high levels of emotional and physical stressors. Researchers have established nurses are continuously exposed to

psychosocial stressors in the workplace, including working off-shift hours, long work hours, interpersonal conflicts, insufficient staffing and ancillary support resources, poor reward systems, peer bullying, and physical abuse from patients (Wu et al, 2007). These stressors have been linked to increased nurse burnout and nurses permanently leaving the healthcare profession all together (Peterson et al, 2008).

There is currently no mandated stress management program for nurses in the Rhode Island. Future research related to the development and evaluation of such programs will be necessary to improve nurse retention and decrease nurse burnout. Advanced Practice Nurses (APRNs) will play an important role in addressing the stress management of practicing nurses. APRNs should lobby local government and hospital administrators to improve staffing ratios and hospital working conditions. Developing the stress management programs should be a priority for all APRNs in practice..

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Appendix A

Informational Letter

Rhode Island College, Institutional Review Board

Exempt Status: 3/25/16

To All MSN students in NURS 510,

My name is Krystal Hilton, RN and I am a graduate student in the Adult-Gerontology Acute Care Nurse Practitioner program at Rhode Island College, Providence, RI. You are all invited to participate in a study. I have developed a stress management education session that will be available to all students enrolled in this course and are in the Adult/Gerontology Acute Nurse Practitioner (NP) or Adult/Gerontology Acute Clinical Nurse Specialist (CNS) study options. Exclusion criteria include MSN students not enrolled in NURS 510 in the spring 2016 semester.

The stress management education session will take place on March 29, 2016 immediately following class, and will last for approximately one-hour. During the first ten minutes of the session, you will be asked to fill out a ten question survey relating to your feelings and thoughts over the past month. The content of the session will include: an introduction to stress; coping mechanisms; stress management; relaxation techniques; and meditation. The stress management techniques that will be demonstrated in the education session will include paced-breathing meditation and relaxation/diaphragmatic breathing. If you decide to participate, there will be a second meeting on April 12, 2016 following class, that will last for approximately fifteen minutes. At that time, you will be asked to complete a second survey that is identical to the first and complete a program evaluation. Students who complete both surveys will be eligible to participate in a raffle.

All information collected will be kept confidential. You will be asked to record your mother's maiden name on the survey in order to be able to compare pre- and post-survey results. Completed surveys will be kept in the Graduate School of Nursing office. To further ensure confidentiality, group meetings will take place in a private room on the RIC campus and no recording devices will be in use. The information collected will be presented in a written report in which your identity will not be revealed.

Topics discussed within the group setting may elicit negative emotions. Furthermore, group participation may increase awareness of stress and illicit an overwhelming stress response. If this occurs and you feel uncomfortable continuing for any reason, you may discontinue their participation in the study. You will also contact Rhode Island College at 456-8094 if you wish, or other support services as described in the program. Participation in this project is voluntary.

You can ask any questions you have now. If you have any questions later, you can contact Krystal Hilton at kwilcox_9058@email.ric.edu or by phone 401-300-2207 or Dr. Manuela Lescault at mlescault@ric.edu. If you would like to talk to someone other than the researcher about your rights or safety as a research participant, please contact Cindy Padua, the Chair of the RIC IRB at IRB@ric.edu, by phone at 401-456-9720.

You will be given a copy of this form to keep.

Thank you in advance for you time and help with this project. I am available for any further discussion or concerns.

Sincerely,

Krystal Hilton, RN, BSN

Rhode Island College Graduate Nursing Student

Appendix B

Pre and post survey

All responses will remain confidential

Instructions: Questions 1-10 elicit feelings and thoughts during the past month. In each case, please indicate how often you have felt or thought a certain way.

What is your mother's maiden name? _____

1. In the last month, how often have you been upset because of something that happened unexpectedly?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

2. In the last month, how often have you felt that you were unable to control the important things in your life?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

3. In the last month, how often have you felt nervous and "stressed"?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

5. In the last month, how often have you felt that things were going your way?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

7. In the last month, how often have you been able to control irritations in your life?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

8. In the last month, how often have you felt that you were on top of things?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

9. In the last month, how often have you been angered because of things that were outside of your control?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

Perceived Stress Scale-10 adapted from Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

Appendix C

Session Outline

1. Introduction of the study and expectations
2. Explanation of PSS-10 Survey
3. List of RI stress management resources
4. Discuss stress and coping
 - a. Ineffective vs. Effective Coping
5. Effects of stress
 - a. Psychological
 - b. Physiological
6. Brainstorm causes of stress in the MSN student
6. Stress management techniques – Diaphragmatic Breathing
7. Stress management skills – PBM
8. Open discussion
9. Conclusion

Appendix D

Diaphragmatic Breathing Handout

Diaphragmatic Breathing

One of the best ways to relax is to practice diaphragmatic breathing. This is really just learning to take slow full breaths from your abdomen instead of short shallow breaths from your chest. If you practice this just 5 minutes each day you can significantly reduce your overall level of anxiety and stress. In fact, if you practice this a couple of times each day for 2-3 weeks in a row, you will be able to "reset" your normal rate of breathing. You will be teaching your body to breath from your abdomen on a regular basis.

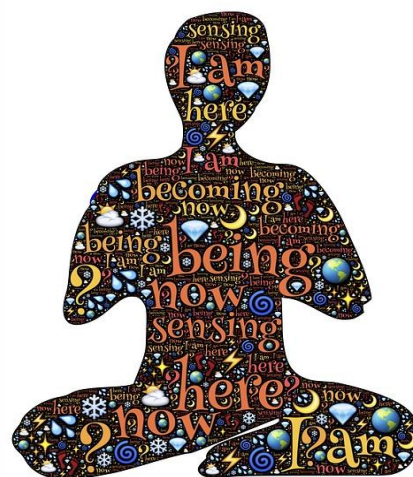


Place one hand on your stomach and one on your upper chest. The goal here is to inhale in a way that only moves your lower hand, while your upper hand stays still. You might just do this for a few breaths in an exaggerated way to get a feel for it. The reason it's important to breath from your abdomen is because you will be able to fill up your lungs more completely. This is a more efficient way to breathe. Remember, you only want your lower hand to move during this exercise. It is also helpful to inhale through your nose and exhale through your mouth. This way you can concentrate on the cool refreshing air coming in and the warm air leaving your body.

The more you practice each day, the faster you will be able to "reset" the pace of your breath, and you will be breathing more from your abdomen than you do from your chest. After a few times practicing with your hands on your stomach and chest, you won't need to do this anymore - unless you want to.

Source: American Holistic Nurses Association (2015). <http://www.ahna.org/Resources/Stress-Management/For-Nursing-Students/Exercises-for-Stress>

Appendix E



Calm Your Mind and Soothe Your Heart (Visualizations)

One area that creates a lot of stress for students is taking exams. How can visualization help change a very stressful and anxiety producing situation into a positive experience? Let's apply the steps.

1. First define your goal and then create affirmations to support those goals. Rather than engaging in worrisome thoughts about not getting a good grade, or studying the wrong material, focus on the positive outcomes. Your goals/affirmations might be that: "I am efficient and focused in my studying; the material that I study is useful and appropriate; and I take exams with ease and receive excellent grades for my performance."
2. Take a moment to relax. Take a deep breath and set aside other thoughts and concerns
3. Now imagine yourself reaching these goals. Imagine what it feels like to enjoy studying, to feel good about learning material that will be useful to yourself and others. Enjoy the confidence that you have knowing that the material you are studying is appropriate. Then, imagine yourself actually taking the exam. Notice how satisfied you feel inside that you are well prepared for the exam and how good it feels to know the answers to most of the questions. Finally, imagine yourself having successfully completed the exam, handing in your paper and knowing with complete certainty that you did very well and are completely satisfied with your performance. How does your body feel, lighter and more

relaxed? Are you feeling a sense of relief? Get in touch with as many senses and feelings as you can. “See” and “feel” yourself successfully completing the exam.

Practice this visualization whenever you find yourself worrying about the exam or becoming scattered or inefficient in your studies.

Visualization is a tool that you can use to help deal with any stress producing situation. Whether the stress is related to managing studies, to clinical performance, to relationships with family, friends and co-workers, this is a tool that can help you mentally re-create and imagine healthy outcomes to life’s many challenges. The above process will only take a few minutes. Remember--if you can see it, feel it, and believe it, you can achieve it.

Source: American Holistic Nurses Association (2015).

<http://www.ahna.org/Resources/Stress-Management/For-Nursing-Students/Exercises-for-Students#6>.

Appendix F
Stress Management Education Session
Program Evaluation

Thank you for your participation in this program. Please consider answering the following questions as they pertain to your experience participating in the support group.

Circle the answer that best reflects your beliefs.

- | | | |
|--|-----|----|
| Did you find this program helpful in decreasing your stress? | Yes | No |
| Was the group mentor prepared for group meetings? | Yes | No |
| Do you think that your overall stress level is less than
when you began this program? | Yes | No |
| Would you recommend this program to other students in the MSN program? | Yes | No |

Appendix G

RIC Campus and Community Support Services

Rhode Island Stress Support Services

Rhode Island College Counseling Center – 401-456-8094

- Located in Craig Hall at the RIC main campus

Anxiety and Depression Association of America - www.adaa.org

211 RI – 2-1-1 is the easiest way to get information when you need it, 24 hours a day, 7 days a week. One call provides you access to resources across your community, whether you need to get help for you, a family member or a friend.

- www.211ri.org

RI Hope – Helping Other People in Emergencies

<http://www.rihope.ri.gov/resources/stress>

